附表【申請眼科專科醫師訓練醫院評鑑 住院醫師 學術論文刊登明細表】

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1	張恩哲	TJO	□屬 SCI 論文 ■ TJO	□已出刊 ＿＿年＿月 ■in press。	Optical coherence tomography as a useful adjunct in early detecting meningioma with optic nerve compression
2			□屬 SCI 論文 □ TJO	□已出刊 ＿＿年＿月 □in press。	
3			□屬 SCI 論文 □ TJO	□已出刊 ＿＿年＿月 □in press。	
4			□屬 SCI 論文 □ TJO	□已出刊 ＿＿年＿月 □in press。	
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Optical coherence tomography as a useful adjunct in early detecting meningioma with optic nerve compression

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2	黃楚軒	Genes	■屬SCI 論文 □ TJO	110/8	Leber's Congenital Amaurosis: Current Concepts of Genotype-Phenotype Correlations
3	黃楚軒	Retina	■屬SCI 論文 □ TJO	111/2	HYPERREFLECTIVE FOCI AS IMPORTANT PROGNOSTIC INDICATORS OF PROGRESSIONOF RETINITIS PIGMENTOSA
	黃楚軒	Journal of Personalized Medicine	■屬SCI 論文 □ TJO	110/10	The Clinical Contribution of Full-Field Electroretinography and 8-Year Experiences of ApplicationinaTertiary Medical Center
5	簡湘文	Int J Med Sci	■屬SCI論文 □ TJO	111/06	The use of androgen deprivation therapy for prostate cancer and its effect on the subsequent dry eye disease: a population-based cohort study

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genes

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Review

Leber's Congenital Amaurosis: Current Concepts of Genotype-Phenotype Correlations

Chu-Hsuan Huang [1], Chung-May Yang [2,3], Chang-Hao Yang [2,3], Yu-Chih Hou [1] and Ta-Ching Chen [2,*]

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Abstract: Leber's congenital amaurosis (LCA), one of the most severe inherited retinal dystrophies, is typically associated with extremely early onset of visual loss, nystagmus, and amaurotic pupils, and is responsible for 20% of childhood blindness. With advances in molecular diagnostic technology, the knowledge about the genetic background of LCA has expanded widely, while disease-causing variants have been identified in 38 genes. Different pathogenetic mechanisms have been found among these varieties of genetic mutations, all of which result in the dysfunction or absence of their encoded proteins participating in the visual cycle. Hence, the clinical phenotypes also exhibit extensive heterogenicity, including the course of visual impairment, involvement of the macular area, alteration in retinal structure, and residual function of the diseased photoreceptor. By reviewing the clinical course, fundoscopic images, optical coherent tomography examination, and electroretinogram, genotype-phenotype correlations could be established for common genetic mutations in LCA, which would benefit the timing of the diagnosis and thus promote early intervention. Gene therapy is promising in the management of LCA, while several clinical trials are ongoing and preliminary success has been announced, focusing on RPE65 and other common disease-causing genes. This review provides an update on the genetics, clinical examination findings, and genotype-phenotype correlations in the most well-established causative genetic mutations of LCA.

Keywords: Leber's congenital amaurosis; genotype-phenotype correlations; GUCY2D; RPE65; CRB1; CEP290; RDH12

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1. Introduction

Inherited retinal dystrophies (IRDs) are a group of diseases caused by genetic mutations that are characteristic of photoceptor dysfunction and eventual death of retinal cells. Different extents of retinal degeneration result in widely varied presentations, from milder night blindness or color blindness to profound visual impairment [1]. Among the diverse phenotypes and genotypes within IRDs, Leber's congenital amaurosis (LCA) is one of the earliest and most severe forms of IRDs. In 1869, Dr. Theodore Leber first described severe

SDC

HYPERREFLECTIVE FOCI AS IMPORTANT PROGNOSTIC INDICATORS OF PROGRESSION OF RETINITIS PIGMENTOSA

CHU-HSUAN HUANG, MD,* CHANG-HAO YANG, MD, PHD,†‡ YING-JU LAI, MS,§ CHUHSING KATE HSIAO, PHD,§ YU-CHIH HOU, MD,* CHUNG-MAY YANG, MD, PHD,†‡ TA-CHING CHEN, MD, PHD†‡

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...vestigate the presence and clinical relevance of hyperreflective foci ...igmentosa.

...ty seven retinitis pigmentosa cases were retrospectively reviewed. The ...-line macular scans in optical coherence tomography were acquired. ...ci were classified according to the location in optical coherence tomography: outer layers within the macula (HRF-outer-central), macular border beyond the central 3 mm (HRF-outer-perifoveal), and choroid (HRF-choroidal). The visual acuity at baseline, at 12 months, and other fundus characteristics were collected.

Results: The mean logMAR best-corrected visual acuity decreased from 0.59 ± 0.66 (20/78 in Snellen) to 0.74 ± 0.81 (20/106 in Snellen) in 1 year. Sixty-six (42.9%), 105 (68.2%), and 98 (63.6%) eyes were classified to HRF-outer-central, HRF-outer-perifoveal, and HRF-choroidal group, respectively. Hyperreflective foci were positively correlated with poorer vision, central macular thinning, and ellipsoid zone disruption (all $P < 0.001$). Worse vision was associated with older age, macular involvement, and the coexistence of two or three HRF groups ($P = 0.014$, 0.047, 0.019, <0.001, respectively). Hyperreflective foci developed more frequently in patients with thick choroid than in those with thin choroid. The coexistence of three HRF groups was correlated with quicker visual deterioration ($P = 0.034$).

Conclusion: Hyperreflective foci are common in retinitis pigmentosa and can be a negative prognostic indicator of macular thickness and visual preservation. Thick choroid was associated with all groups of HRFs, especially HRF-choroidal.

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Retinitis pigmentosa (RP) has a prevalence of approximately 0.025% and is considered as the most common phenotype of inherited retinal diseases.[1] This heterogeneous disease has different inherited patterns and has been linked to nearly 130 genes (https://sph.uth.edu/retnet/disease.htm, until June, 2021), which lead to dysfunction and subsequent death of rod and cone photoreceptors. In addition to the damage to photoreceptors, cases with RP also present with degeneration of retinal pigment epithelium (RPE), vessel attenuation, and choroidal atrophy.[1] Diagnosis of RP is based on examinations such as fundus photography and electroretinogram, which reveal morphological and functional defects. Molecular confirmation of RP is based on genetic tests. The natural course includes night blindness, visual field constriction, decreased visual acuity, and, eventually, permanent loss of vision. The progression rate was variable

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Demethoxycurcumin inhibits the cell migration and MMP-2 expression in human retinal pigment epithelial cells by targeting the STAT-3 pathway

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ABSTRACT

Proliferative vitreoretinopathy (PVR) involves retinal pigment epithelium (RPE) cell proliferation and migration and leads to tractional retinal detachment. Demethoxycurcumin (DMC), a curcuminoid, has anti-inflammatory and anti-tumour properties. However, whether DMC affects the migration of RPE cells and the molecular mechanism of human PVR remains unclear. The aim of the current study was to investigate the effects of DMC on the inhibition of migration and proteinase expression of human ARPE-19 cells. Herein, we provided molecular evidence associated with PVR prevention through DMC by inhibiting ARPE-19 cell migration. We performed gelatin zymography, Western blot and RT-PCR and respectively found that DMC is sufficient to reduce matrix metalloproteinase-2 (MMP-2) activity, protein level and mRNA expression. DMC suppressed the nuclear levels of transcriptional factors specificity protein 1 and c-Fos, which are involved in the modulation of the transcriptional activation of the MMP-2 gene. DMC also inhibited STAT-3 phosphorylation in ARPE-19 cells. Selective STAT-3 induction by a STAT-3 activator, colivelin, reverted MMP activity and protein expression and cell migration, which were reduced in response to DMC. The results proved the inhibitory effect of DMC on RPE cell migration and MMP-2 expression by the down-regulation of the STAT-3 signalling pathway.

1. Introduction

Proliferative vitreoretinopathy (PVR), an abnormal wound healing response and the leading cause of failure in vitreoretinal surgery, is a process that involves the abnormal proliferation, migration, invasion, epithelial–mesenchymal transformation (EMT) and proteinase expression of retinal pigment epithelial (RPE) cells following tractional retinal separation with fixed retinal folds and leads to profound vision loss in the affected eye (Idrees et al., 2019; Ni et al., 2020). Patients with chronic rhegmatogenous retinal detachment (RRD) may also develop problems, such as raised intraocular pressure and ocular inflammatory conditions (Ni et al., 2020). Several inflammatory factors, such as growth factors and cytokines, have been implicated in the activation RPE cell migration, proliferation and EMT (Balogh et al., 2020; Kim et al., 2020). Moreover, matrix metalloproteinases (MMPs) that participate in RPE cell migration and EMT have been characterised (Matoba et al., 2017).

MMP is an extracellular matrix (ECM) proteolytic enzyme and involved in several physiological progression, such as ECM breakdown, embryonic development and tissue remodelling (Bassiouni et al., 2021). MMPs also participate in disease processes, such as arthritis, fibrosis, inflammation, cancer metastasis and PVR (Bassiouni et al., 2021; Kon et al., 1998; Ravi Kanth and Nageshwar Reddy, 2014). Amongst MMPs, MMP-2 is capable of degrading structural collagen for malignant and normal cells and could serve an important role in the metastasis of tumour cells (Kaczorowska et al., 2020). MMP-2 has also been associated with the severity of chronic airway diseases and airway infection (Mahor et al., 2020). In addition, high MMP-2 level is associated with PVR grade in subretinal fluid (Symeonidis et al., 2011).

Many bioactive naturally occurring compounds display highly

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Article

The Clinical Contribution of Full-Field Electroretinography and 8-Year Experiences of Application in a Tertiary Medical Center

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Abstract: Electroretinography (ERG) is an important and w[illegible]nal and visual pathway diseases. This study reviewed the medical [illegible]ull-field ERG (ffERG) at a single medical center between 2012 and 2[illegible]perience in the clinical contribution of ERG. Based on the indication for scheduling ffERG and the final diagnosis, patients could be classified into six groups: 'retinal dystrophies', 'other retinal or macular diseases', 'optic neuropathies', 'visual complaints', 'systemic diseases', and 'others'. A total of 1921 full-field electroretinograms (ffERGs) (1655 patients) were included. The average number of ffERGs performed per year was 262 and the number of annual ffERGs was constant. The 'retinal dystrophies' group accounted for 36.5% of the studied population, followed by the 'other retinal or macular diseases' group (20.2%). The most common systemic disease was central nervous system disease. The rates of abnormal ffERGs in the 'systemic diseases', 'optic neuropathies', and 'visual complaints' groups were 27.3%, 22.6%, and 10.1%, respectively ($p < 0.001$). Higher rates were found in patients <20 years old in the 'systemic diseases' and 'optic neuropathies' groups; epilepsy and optic nerve atrophy were the most common diagnoses, respectively. In brief, by quantifying the functional response in the retina,

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Research Paper

The use of androgen deprivation therapy for prostate cancer and its effect on the subsequent dry eye disease: a population-based cohort study

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Abstract

This study aimed to investigate the influence of androgen deprivation therapy (ADT) for the development of dry eye disease (DED) in subjects with prostate cancer via the use of national health insurance research database (NHIRD) of Taiwan. A retrospective cohort study was conducted and patients were selected as prostate cancer with ADT according to diagnostic and procedure codes. Each participant in that group was then matched to one patient with prostate cancer but without ADT and two subject s without prostate cancer and ADT. And a total of 1791, 1791 and 3582 participants were enrolled in each group. The primary outcome was set as the DED development according to the diagnostic codes. Cox proportional hazard regression was applied to calculate the adjusted hazard ratio (aHR) and 95% confidence interval (CI) of ADT and other parameters for DED development. There were 228, 126 and 95 new events of DED developed in the control group, the prostate cancer without ADT group and the prostate cancer with ADT group. The rate of DED in the prostate cancer with ADT group (aHR: 0.980, 95% CI: 0.771-1.246, P= 0.8696) and Prostate cancer without ADT group (aHR: 1.064, 95% CI: 0.855-1.325, P= 0.5766) were not significantly different compared to the control group. In addition, the patients aged 70-79 years old demonstrated a significantly higher incidence of developing DED compared to those aged 50-59 years old (aHR: 1.885, 95% CI: 1.188-2.989, P= 0.0071). In conclusion, the use of ADT did not alter the incidence of subsequent DED.

Key words: androgen deprivation therapy; dry eye disease; age; database; epidemiology

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3			□屬 SCI 論文 □ TJO		
4			□屬 SCI 論文 □ TJO		
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GLAUCOMA

Relationship of axial length and corneal biomechanical properties with susceptibility to unilateral normal-tension glaucoma

Ying-Yi Chen[1,2] · Tsing-Hong Wang[1,3] · Jehn-Yu Huang[1,3] · Chien-Chia Su[1,3,4]

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陳映伊醫師

Abstract

Purpose Corneal biomechanics, reflecting structural vulnerabilities of the eyeball, may participate in the pathogenesis of unilateral normal-tension glaucoma. This study investigated the pathophysiology of unilateral normal-tension glaucoma ST (OCULUS Optikgeräte GmbH) and other ocular characteristics.

hty-three patients with normal-tension glaucoma with unilateral visual field loss and structurally unaffected fel- 111 healthy controls were included in this prospective study. Dynamic corneal response parameters, intraocular pressure measured by rebound tonometry, central corneal thickness, and axial length were assessed on the same day. Measurements were compared between affected eyes, unaffected fellow eyes, and control eyes. Risk factors for normal-tension glaucoma and unilateral involvement were the main outcome measures.

Results A shorter first applanation time (adjusted odds ratio, 0.061; 95% confidence interval, 0.018–0.215) and a larger peak distance (adjusted odds ratio, 4.935; 95% confidence interval, 1.547–15.739) were significant risk factors for normal-tension glaucoma and were associated with greater glaucoma severity (both $P<0.001$). Axial length (adjusted odds ratio, 29.015; 95% confidence interval, 4.452–189.083) was the predominant risk factor for unilateral involvement in patients with normal-tension glaucoma.

Conclusion The eyes with normal-tension glaucoma were more compliant than healthy eyes. Axial elongation-associated optic nerve strain may play an important role in unilateral normal-tension glaucoma with similar corneal and scleral biomechanics in both eyes.